



SPR RESEARCH PROGRAM SECOND-STAGE PROBLEM STATEMENT FY 2009

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I. PROBLEM NUMBER

IMM-09-09

II. PROBLEM TITLE

Causal Factors and Impacts of Continuing or Ceasing to Drive Among Older Adults

III. RESEARCH PROBLEM STATEMENT

Given Oregon's, and the nation's, growing older adult population and existing questions concerning the safety of older drivers, more information is needed to understand the senior population of drivers, both for reasons of public safety and for individuals' quality of life. It is important to better understand what steps can be taken to improve driving safety among this population, what factors result in some older drivers voluntarily ceasing to drive or continuing to drive beyond the point where they should stop for safety reasons, and the transportation needs of these older adults. Although older drivers, particularly those 80 years of age and older, tend to limit the total number of vehicle miles they travel. In fact, they are three times more likely to die from injuries attributed to a vehicle accident, and such accidents can involve other cars, pedestrians, and cyclists (*Cobb 1998; Dellinger et al. 2001; Stewart et al. 1993*). Also, despite the rapid growth in the number of older adults, the rate of mass transit use among this population has remained stagnant for more than two decades (*Giuliano, Hu, and Lee, 2003*). The increase in numbers of older drivers must be examined and planned for to ensure the safety of public roadways for all. Understanding the reasons for ceasing or continuing to drive when not able to do so safely, the effects of ceasing to drive, and the alternative transportation needs of older Oregonians are crucial for preparing for our aging population.

In 2007, to begin the effort to plan for the transportation needs of older adults in Oregon, a statewide mail survey completed by 500 older adults, drivers and voluntary ceasers, was conducted by the Institute on Aging at Portland State University for ODOT (www.ioa.pdx.edu). Telephone interviews were also conducted with a subsample of mail survey respondents. A preliminary literature review found no Oregon-specific study or any other statewide examination of either the reasons for voluntary driving cessation by aging drivers or their transportation needs after ceasing to drive. In addition, little or no data were found comparing current elderly drivers with former drivers in the same population, and few studies had examined alternative transportation needs, especially across geographic (e.g., urban versus rural) areas. Among the results of the study was the finding that those most likely to have chosen to stop driving were older, depressed females in poorer health who were living in senior housing, using alternative transportation when available, making fewer trips, and seeing fewer limitations associated with using alternative transportation. Because this was a cross-sectional, not longitudinal, analysis, it was not possible, however, to determine causality (e.g., to know whether people became depressed as a *result* of ceasing to drive or being depressed *led* them to cease driving, or to know whether poor health was the *result* or *cause* of driving cessation). Additionally, many of the more severe reductions or changes in driving patterns and ceasing to drive occurred late in life, beginning for many in the sample around age 75. Further research is needed to examine older adults' long term patterns in driving behavior and in ceasing to drive, and to establish causal factors.

IV. RESEARCH OBJECTIVES

Research Goal: To better understand and meet the transportation needs of older adults throughout Oregon by identifying causal factors in driving changes and cessation, the driving trajectory in later life and the resulting effects.

Objective: Conduct a longitudinal (over a 5-year time period) statewide mail survey with a representative sample of older adults in urban and rural Oregon in order to:

- a. Identify changes in driving behavior and in the use of alternative transportation over time among older adults.
- b. Examine the causal factors leading individuals to cease driving voluntarily.
- c. Determine the impact on older adults' well-being, over time, of ceasing to drive among both voluntary and mandatory ceasers.

Longitudinal research is needed to accomplish these objectives, ideally following groups of individuals in particular age cohorts over time. Because the previous cross-sectional study found significant changes in driving behavior beginning around age 75, the age groupings of 70 to 74, 75 to 79, 80 to 84, 85 to 89, and 90+ are suggested, with random selection of participants from DMV records. Stratification based on urban/rural residence and region of the state is proposed as well. This longitudinal panel design with multiple cohorts would include, as well, individuals who were forced to stop driving through the *Medically-At-Risk Program* and would allow comparisons to be made between them and those who voluntarily chose to stop driving, as well as those who continued to drive.

V. WORK TASKS, COST ESTIMATE AND DURATION

The duration of the proposed project is five years. Key tasks will include:

- Provide administrative and fiscal oversight - \$37,000 Plus Overhead (46%): \$193,000
- Identify and convene a statewide, crosscutting Research Advisory Consortium, including older adults, to plan and guide the research and recommended strategies for action, per the suggestion of the researchers' previous study (Months 1, 3, 6, 9 in Yr 1, biannually pre- and post survey in Yrs 2, 3, 4, 5) \$26,700
- Select a representative sample of older adults stratified by age (5 cohorts: 70 to 74, 75 to 79, 80 to 84, 85 to 89, and 90+) and geographic area (urban/rural, ODOT zones) (N=2000) (Months 2-3) \$16,000
- Develop, pretest, revise survey instrument (Months 2-4) \$32,500
- Conduct ongoing literature review (throughout) \$26,000
- Conduct statewide mail survey (Months 5-7) \$34,800
- Repeat survey each year for five years, replacing individuals to account for sample attrition (Months 5-7 Yrs 2, 3, 4, 5) \$60,600
- Enter and analyze data (Months 6-10, Yrs 1, 2, 3, 4, 5) \$101,500
- Prepare interim/final reports (Months 10-12, Yrs 1, 2, 3, 4, 5) \$85,000

VI. IMPLEMENTATION

The results of the study will be used by ODOT, DHS, and other state and local agencies in planning for the transportation needs of older adults. Specifically, findings may be used to project transportation needs and design feasible transportation alternatives; examine the level of need for at-risk driver referral programs and other screening approaches; identify supports that may assist older adults to continue to drive safely; and identify strategies that would encourage use of alternative transportation options as driving safely becomes a challenge. Findings will be disseminated through the ODOT website and library, the consortium members, and the IOA(PSU) website. In addition, staff will submit research findings for presentation at professional conferences, including those serving gerontology and transportation professionals.

VII. POTENTIAL BENEFITS

This information will assist the state in planning for the current and future transportation needs of the rapidly growing population of older Oregonians, both those who drive and those who have chosen or been required to stop driving. It will help to identify where deficits in available transportation options exist and assess the quality of existing transportation options. It will provide information needed to help develop enhanced marketing and delivery of transportation options, targeted at both older adults and their families and friends, to encourage use of transit. The results of the study should be useful for ODOT in developing the *Oregon Transportation Plan* for the Public Transit Division and the Department of Human Services to use in developing programs for alternative transportation services, and for ODOT's Research Unit for answering questions related to driving cessation and alternative transportation posed by the Oregon Legislature, ODOT, DHS, and local governments. By not conducting this research, the state of Oregon is likely to lag behind in addressing this important societal issue, resulting in inefficient use of public special transportation funds and deferring necessary actions that could increase safety on the roadways.

VIII. SUBMITTED BY

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